

IN THE CLAIMS

Please amend the claims and add new claims 28 and 29 as follows:

1. (currently amended) A method for producing an optical component of quartz glass ~~[by]~~ , said method comprising: elongating a coaxial arrangement of a core rod and a hollow cylinder of a predetermined length ~~[in that]~~ wherein the arrangement is supplied in vertical orientation to a heating zone and is softened therein zonewise, starting with a ~~[its]~~ lower end thereof, and the component is drawn off downwards from a ~~[the]~~ softened region of the arrangement, the hollow cylinder having an inner bore which in a ~~[the]~~ region of the ~~[its]~~ lower end is provided with a constriction on which the core rod is supported, ~~[characterized in that]~~ the inner bore being ~~[(5)-is]~~ mechanically machined to a final dimension, and ~~[that]~~ the constriction of the inner bore ~~[(5)-is]~~ being produced ~~[in that]~~ by softening a the lower front end of the hollow cylinder ~~[is softened, upset]~~ engaging against a tool ~~[(2, 17, 22) and thus]~~ so that the softened lower front end of the hollow cylinder is folded inwards ~~[with formation of]~~ so as to form a peripheral bead ring ~~[(6, 16)]~~.

2. (currently amended) The method according to claim 1, ~~[characterized in that]~~ wherein the tool ~~[(2, 17)]~~ has a shaped part ~~[(4, 18)]~~ projecting into the inner bore ~~[(15)]~~, the inwardly folded quartz glass coming to rest on the shaped part ~~[(4, 18) with formation of]~~ so as to form the peripheral bead ring ~~[(6, 16)]~~.

3. (currently amended) The method according to claim 1 [~~or 2, characterized in that~~]
wherein the hollow cylinder [(1)] and the tool [(2, 17, 22)] are heated up in a furnace [(9)] to a
temperature at which quartz glass softens.

4. (currently amended) The method according to [~~any one of the preceding claims,~~
~~characterized in that~~] claim 1 wherein the [a] tool [(17) ~~is used in the case of which~~] has a
[~~the~~] shaped part [(18) ~~comprises~~] with a conical surface [(18)] projecting into the inner bore
[(15)] of the hollow cylinder [(11)].

5. (currently amended) The method according to [~~any one of the preceding claims,~~
~~characterized in that~~] claim 1 wherein the [a] tool [(2) ~~is used in which~~] has a [~~the~~] shaped
part [~~is~~] formed as a peg [(4)] projecting into the inner bore [(5)] of the hollow cylinder [(1),
~~which has~~] , the peg having an outer diameter corresponding to an [~~the~~] inner diameter [(5)]
of the developing bead ring [(6)].

6. (currently amended) The method according to claim 5, [~~characterized in that~~]
wherein the tool [(2) ~~comprises~~] has an annular groove [(3) ~~having~~] with an outer diameter
corresponding to the outer diameter of the hollow cylinder [(1)], and an inner diameter
corresponding to the inner diameter of the bead ring [(6)].

7. (currently amended) The method according to [~~any one of the preceding claims, characterized in that~~] claim 1 wherein the tool [~~(2, 17) consists~~] is of graphite or a carbon fiber-reinforced carbon.

8. (currently amended) The method according to [~~any one of the preceding claims, characterized in that~~] claim 1 wherein the tool [~~(2, 17)~~] and the softened front end of the hollow cylinder [~~(1, 11)~~] are rotating opposite to each other about [the] a longitudinal axis [~~(10)~~] of the hollow cylinder.

9. (currently amended) The method according to [~~any one of the preceding claims, characterized in that~~] claim 1 wherein an outer cone [~~(7)~~] is formed on the softened front end of the hollow cylinder [~~(1)~~] by means of the tool [~~(2)~~].

10. (currently amended) The method according to [~~any one of the preceding claims, characterized in that a~~] claim 1 wherein the tool [~~is used in the form of~~] comprises a quartz glass tube [~~(22)~~] which is fused with the front end of the hollow cylinder [~~(21) in the~~] so as to form [~~of~~] a joint.

11. (currently amended) A method for producing an optical component of quartz glass [~~by~~] , said method comprising: elongating a coaxial arrangement of a core rod and a hollow

cylinder of a predetermined length [~~in that~~], the arrangement being [~~is~~] supplied in vertical orientation to a heating zone and [~~is~~] softened therein zonewise, starting with a [~~its~~] lower end thereof, and the component being [~~is~~] drawn off downwards from the softened region, the hollow cylinder having an inner bore [~~which in the region of its lower end~~] that is provided with a constriction in a region of the lower end on which the core rod is supported, [~~characterized in that~~] wherein the inner bore [(55)] is mechanically machined to a final dimension, and [~~that~~] wherein the constriction of the inner bore [(55)] is produced [~~in that~~] by, during the mechanical machining in the region of the lower end, producing a collar [(52)-is ~~produced which~~] that extends about [~~the~~] a longitudinal axis [(10)] of the inner bore [(55)] and projects inwards thereof.

12. (currently amended) The method according to claim 11, [~~characterized in that~~] wherein the [~~surrounding~~] collar [(52)-is ~~produced with~~] has a maximum height which is 0.5 to 0.32 times the inner diameter of the inner bore [(55), ~~preferably 0.1 to 0.2 times the inner diameter of the inner bore (55)~~].

13. (currently amended) The method according to claim 11 [~~or 12, characterized in that~~] wherein the surrounding collar [(52)] is produced with an extension that, when viewed in the direction of the longitudinal axis [(10)-], [~~which~~] is in the range between 15 mm and 40 mm [, ~~preferably below 30 mm~~].

14. (currently amended) The method according to [~~any one of claims 11 to 13,~~
~~characterized in that~~] claim 11 wherein a collar [(52)] is produced with an inner cone
tapering towards the lower end.

15. (currently amended) The method according to [~~any one of claims 11 to 14,~~
~~characterized in that a~~] claim 11 wherein the constriction of the inner bore of the hollow
cylinder is [~~used whose inner bore (55) has~~] a stepped constriction in the region of [its] the
lower end prior to the mechanical machining [~~to a final dimension~~] step.

16. (currently amended) A method for producing an optical component of quartz glass
[by] said method comprising: elongating a coaxial arrangement of a core rod and a hollow
cylinder of a predetermined length [~~in that~~] wherein the arrangement is supplied in vertical
orientation to a heating zone and is softened therein zonewise, starting with a [its] lower end
thereof, and the component is drawn off downwards from a [the] softened region of the
arrangement, the hollow cylinder having an inner bore [~~which in the region of its lower end~~]
that is provided with a constriction in the region of its lower end on which the core rod is
supported, [~~characterized in that~~] and wherein a raw cylinder [(33, 43)] is provided which is
longer than the hollow cylinder [(31, 41)] to be elongated, [~~and~~] the raw cylinder having a
[whose] bore [(35, 45)] that is mechanically machined to a final dimension, and wherein
[that] the raw cylinder bore [(35, 45)] is heated in a collapsing zone [(34, 48)] spaced apart

from [the] a front end of the raw cylinder [(33, 43)] at a distance corresponding at least to the length of the hollow cylinder [(31, 41), ~~and is thereby~~] so that the raw cylinder is collapsed in part, and [~~that~~] wherein the hollow cylinder [(33, 43)] is subsequently separated in the region of the collapsing zone [(34, 48)].

17. (currently amended) The method according to claim 16, [~~characterized in that~~] wherein the raw cylinder [(33, 43)] consists of at least two start cylinders [(31, 41)] connected to each other at the front [~~side~~] end and joined in the region of an attachment zone in the form of a joint, and [~~that~~] wherein the step of heating and partial collapsing of the raw cylinder [(33, 43) ~~are~~] is carried out in the area of the attachment zone.

18. (currently amended) The method according to claim 17, [~~characterized in that~~] wherein at least one of the start cylinders [(31)] has a reduced wall thickness [(32)] in the region of the attachment zone.

19. (currently amended) The method according to claim 18, [~~characterized in that~~] wherein the region of reduced wall thickness [(32)] is configured as a conical taper.

20. (currently amended) The method according to claim 16 [~~or 17, characterized in that~~], wherein the raw cylinder [(43)] is softened in vertical orientation, is suspended in an

annular heating element [(49) ,] in the region of [its] the collapsing zone [(48)] and is elongated [~~in this process~~] under the action of its own weight.

21. (currently amended) The method according to claim 16, [~~characterized in that~~]
wherein the raw cylinder has a cylindrical outer jacket which prior to heating and collapsing in the region of the collapsing zone [(32, 48)] is provided with a radially surrounding notch.

22. (currently amended) The method according to [~~any one of claims 16 to 21,~~
~~characterized in that~~] claim 16 wherein a negative pressure [~~as compared with the~~] relative
to a pressure externally applied to [~~the~~] a cylindrical outer surface of the raw cylinder is
produced in [~~the~~] a bore therein during the collapsing.

23. (currently amended) A hollow cylinder of quartz glass for carrying out the method
according to [~~any one of claims 11 to 15,~~] claim 11, the hollow cylinder comprising a
cylinder wall with a surface defining an inner bore [~~which in the region of one of its ends is~~
~~provided with~~] having a constriction in a region of an end of the cylinder, [~~characterized in~~
~~that~~] wherein the [~~inner bore (55) has a~~] surface which is mechanically machined to a final
dimension, and [~~that~~] wherein the constriction is formed as a collar [(52) ~~which~~] that is
produced during mechanical machining and projects into the inner bore [(55)].

24. (currently amended) The hollow cylinder according to claim 23, [~~characterized in that~~] wherein the surrounding collar [(52)] has a maximum height which is 0.05 to 0.32 times the inner diameter of the inner bore [(53)], preferably 0.1 to 0.2 times the inner diameter of the inner bore [(55)].

25. (currently amended) The hollow cylinder according to claim 23 [~~or 24, characterized in that~~] wherein the surrounding collar [(52)] has an extension, viewed in the direction of the longitudinal axis, which is within the range between 15 mm and 40 mm, preferably below 30 mm.

26. (currently amended) The hollow cylinder according to [~~any one of claims 23 to 25, characterized in that~~] claim 23, wherein the end of the hollow cylinder which is provided with the constriction is formed as an outer cone.

27. (currently amended) The hollow cylinder according to [~~any one of claims 23 to 26, characterized in that~~] claim 23, wherein the collar [(52)] has an inner cone tapering towards the end of the inner bore.

28. (new) The method according to claim 11, wherein the collar has a maximum height that is 0.1 to 0.2 times the inner diameter of the inner bore.

29. (new) The method according to claim 11 wherein the surrounding collar is produced with an extension that, when viewed in the direction of the longitudinal axis, is below 30 mm.